

**Evaluation of High Crash Locations
Dark Criteria Study
Location 1**

Improvement Recommendations Matrix - Welsh Tract Road, MP 0-1.59

Site	Recommended Improvement	Status
Welsh Tract Rd @ Ironsides Rd Intersection (MP 0.55)	1 Replace the damaged guardrail on the north side of Welsh Tract Road on the leading edge of the bridge parapet and install delineators along the new guardrail.	9/19/2013 - Need to review in field 7/18/14 - Per field review, this guardrail has been replaced and upgraded as part of the Welsh Hill Preserve roadway improvement work. COMPLETE
	2 Repost the leaning object markers (OM3) on the west side of the bridge parapet on both sides of the roadway.	9/19/2013 - Assigned to signing. Maximo 580018 9/25/2013 - COMPLETE
	3 Replace the Two-Direction Chevron Alignment warning sign facing the northbound Ironsides Road approach that is leaning backwards.	9/19/2013 - Assigned to signing. Maximo 580018 9/25/2013 - COMPLETE
Welsh Tract Rd @ Horizontal Curve (MP 0.67)	4 As part of the proposed development-related roadway improvements projects, install additional Chevron Alignment warning signs (W1-8) as a part of the horizontal curve realignment already proposed. The Ironsides Crossing development roadway improvements will realign the horizontal curve radius from 270' to 533'. Table 2C-6 of the Delaware Manual on Uniform Traffic Control Devices shows that W1-8 signs shall be spaced every 120 feet for curves with a radius between 401' and 700'. There is one (1) Chevron Alignment warning sign facing eastbound traffic. Two (2) additional Chevron Alignment warning signs should be placed west of the existing Chevron Alignment warning sign facing eastbound traffic. These signs should be spaced at approximately 120 feet apart. One (1) additional Chevron Alignment warning sign should be installed on the back of the existing Chevron Alignment warning sign facing westbound traffic, east of the existing sign facing eastbound traffic. There are two (2) Chevron Alignment warning signs facing westbound traffic. One (1) additional Chevron Alignment warning sign should be installed on the back of the first new sign facing west, approximately 120 feet to the west of the existing Chevron Alignment warning sign.	9/19/2013 - Needs further review 7/18/2014 - Chevron alignment warning signs installed around curve per MUTCD requirements. COMPLETE
	5 If the horizontal curve, guard rail, and slope issues are not addressed by the development-related roadway improvements project, a study is recommended to re-evaluate those concerns.	11/26/2018 - developer-related roadway improvements are COMPLETE and ACCEPTED .
	6 If the proposed development-related roadway improvements projects do not move forward, roadway lighting at the horizontal curve is recommended to be installed.	11/26/2018 - developer-related roadway improvements are COMPLETE and ACCEPTED .
	7 Evaluate the crash data in a follow-up study once the improvements proposed through the Ironsides Crossing development project are constructed. An evaluation of crash data after the improvements are constructed could determine if the realignment of the roadway has improved the safety conditions and reduced the need for roadway lighting.	11/26/2018 - developer-related roadway improvements are COMPLETE and ACCEPTED .